We recently called attention to a report made by Professor Leeds to the Chemical Society, of New York on the adulterations of certain articles of food. The tenor of the report was to show that food products in general were unadulterated and pure, and to cast ridicule on those who asserted to the contrary. Among other specific statements Prof. Leeds stated that he had made a special examination of sugar syrups, and asserted that the result of his investigations showed, that they were free from any admixture of glucose.

Side by side with Prof. Leeds' report we gave the statement of Prof. Wiley that 500 tons of glucose was made daily in the United States, the bulk of which was used for adulterating cane sugars, and that the glucose of commerce as sold in the Western States was largely composed of syrup made from starch.

We publish in this issue a letter from Prof. Wiley in confirmation of his report, stating that the manufacture of a sugar, which is a mixture of glucose and cane sugar, is carried on in New York city or its vicinity.

AMYLOSE.

As a thousand tons of sugar made from starch will within a few months be placed on the market daily, half that amount being already the consumption of that article of commerce, it appears desirable to make use of some name by which this substance may be known and at the suggestion of Prof. Wiley, we propose "AMYLOSE" as an appropriate term.

AMYLOSE will include all varieties of syrups and sugars manufactured from starch. (Lat. *Amylum*, *Starch*).

NOTE ON PHOTOGRAPHS OF THE SPECTRUM OF THE COMET OF JUNE, 1881.

BY PROFESSOR HENRY DRAPER, M. D.

The appearance of a large comet has afforded an opportunity of adding to our knowledge of these bodies by applying to it a new means of research. Owing to the recent progress in photography, it was to be hoped that photographs of the comet and even of its spectrum might be obtained and peculiarities invisible to the eye detected. For such experiments my observatory was prepared, because for many years its resources had been directed to the more delicate branches of celestial photography and spectroscopy, such as photography of stellar spectra and of the nebulæ. More than a hundred photographs of spectra of stars have been taken, and in the nebula of Orion details equal in faintness to stars of the 14.7 magnitude have been photographed.

It was obvious that if the comet could be photographed by less than an hour's exposure, there would be a chance of obtaining a photograph of the spectrum of the coma, especially as it was probable that its ultra-violet region consisted of but few lines. In examining my photographs of the spectrum of the voltaic arc, a strong band or group of lines was found above H, and on the hypothesis that the incandescent vapor of a carbon compound exists in comets this band might be photographed in their spectrum.

Accordingly, at the first attempt, a photograph of the nucleus and part of the envelopes was obtained in seventeen minutes on the night of June 24th, through breaks in the clouds. On succeeding occasions, when an exposure of 162 minutes was given, the tail impressed itself to an extent of nearly ten degrees in length.

I next tried by interposing a direct vision prism between the sensitive plate and object glass to secure a photograph which would show the continuous spectrum of the nucleus and the banded spectrum of the coma. After an exposure of eighty-three minutes, a strong picture of the spectrum of the nucleus, coma and part of the tail was obtained, but the banded spectrum was overpowered by the continuous spectrum.

I then applied the two-prism spectroscope used for stellar spectrum photography, anticipating that although the diminution of light would be serious after passing through the slit, two prisms and two object glasses, yet the advantage of being able to have a juxtaposed comparison spectrum would make the attempt desirable, and moreover, the continuous spectrum being more weakened than the banded by the increased dispersion the latter would become more distinct.

Three photographs of the comet's spectrum have been taken with this arrangement with exposures of 180 minutes, 196 minutes and 228 minutes, and with a comparison spectrum on each. The continuous spectrum of the nucleus was plainly seen while the photography was in progress. It will take some time to reduce and discuss these photographs and prepare the auxiliary photographs which will be necessary for their interpretation. For the present it will suffice to say that the most striking feature is a heavy hand above H which is divisible into lines and in addition two faint bands, one between G and *h* and another between *h* and H. I was very careful to stop these exposures before dawn, fearing that the spectrum of daylight might become superposed on the cometary spectrum.

It would seem that these photographs strengthen the hypothesis of the presence of carbon in comets, but a series of comparisons will be necessary, and it is not improbable that a part of the spectrum may be due to other elements.

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OBSERVATIONS ON SIREDON LICHENOIDES.*

BY WM. E. CARLIN.

Como Lake is a body of water about two miles and a half in circumference. It has no known outlet, but is fed by a stream of pure spring water about two feet wide and a foot deep, which, continually running, prevents the lake's absorption by evaporation. The lake is quite shallow and can be easily waded at almost any part, being not more than 10 feet deep in the deepest place that I have been able to find. The bottom of the lake is soft and is covered in most places with grass and weeds. The water is strongly impregnated with alkali, and a large number of cattle are said to have died a number of years ago from drinking it. It is very disagreeable to the taste. The amount of water varies about 14 inches during the year, being highest in the spring from the melting snows, and lowest in the autumn. This is the home of the *Siredon lichenoides* (Baird). They never enter the stream of fresh water, preferring the alkali water of the lake. They seem to suffer no inconvenience, however, if placed in fresh water. I have caught as many as a hundred and fifty and

*From the Proceedings of United States National Museum.